

Claims

1. A dental imaging system for providing image data relating to a dental target, comprising:

a sensor configured to generate the image data relating to the target; and

a base unit connected to the sensor and configured to receive the image data from the sensor.
2. A dental imaging system according to claim 1, wherein the sensor comprises:

a light source; and

a diffuser proximate the light source, wherein the diffuser is configured to diffuse light from the light source.
3. A dental imaging system according to claim 2, wherein:

the light source is disposed behind a solid medium; and

the diffuser is at least one of integrated into the solid medium and attached to the solid medium.
4. A dental imaging system according to claim 3, wherein the diffuser includes a roughened surface of the solid medium.
5. A dental imaging system according to claim 3, wherein the diffuser includes the solid medium, and wherein the solid medium comprises a diffusing material.

6. A dental imaging system according to claim 1, further comprising at least one substantially white LED.
7. A dental imaging system according to claim 1, wherein the sensor is configured to generate a full motion video signal.
8. A dental imaging system according to claim 7, wherein the sensor includes a video processor.
9. A dental imaging system according to claim 7, wherein the base unit includes a video processor.
10. A dental imaging system according to claim 7, wherein at least one of the sensor and the base unit is configured to capture a single frame in the video signal.
11. A dental imaging system according to claim 10, wherein the sensor includes a freeze frame activator.
12. A dental imaging system according to claim 1, wherein at least one of the sensor and the base unit includes a network device.
13. A dental imaging system according to claim 1, further comprising a connected device connected to the base unit.

14. A dental imaging system according to claim 13, wherein the base unit is configured to adjust the data for use by the connected device.
15. A dental imaging system according to claim 13, wherein connected device is a wireless display.
16. A dental imaging system according to claim 1, wherein the base unit is connected to the sensor via a wireless connection.
17. A sensor, comprising:
 - a camera; and
 - a light source, comprising:
 - an LED configured to provide light along a light path to the camera; and
 - a diffuser interposed along the light path.
18. A sensor according to claim 17, wherein the sensor further comprises a housing defining a cavity, wherein the LED is disposed within the cavity, and wherein the diffuser covers the cavity in the housing.

19. A sensor according to claim 17, wherein the diffuser comprises a solid material, comprising:
a rear surface configured to abut the LED; and
a roughened front surface.
20. A sensor according to claim 17, wherein the sensor further includes a wireless interface connected to the camera and configured to transmit information from the camera.
21. A sensor according to claim 20, wherein the wireless interface is detachable from the camera.
22. A sensor according to claim 17, further comprising a base unit configured to receive signals from the camera.
23. A sensor according to claim 17, wherein the LED comprises a substantially white LED.
24. A sensor according to claim 17, further comprising a video processor connected to the camera.
25. A sensor according to claim 24, further comprising a freeze frame activator.

26. A sensor according to claim 17, further comprising a network device connected to the camera.
27. A dental imaging system base unit configured to receive data from a dental sensor, comprising:
a receiving component configured to receive signals from the dental sensor; and
an external interface connected to the receiving component and configured to reformat signals from the receiving component for transmission to a connected device.
28. A dental imaging system base unit according to claim 27, further comprising an image processing component connected to the receiving component for processing data the receiving component.
29. A dental imaging system base unit according to claim 28, wherein the image processing component includes a video processing component.
30. A dental imaging system base unit according to claim 27, wherein the receiving component comprises a wireless receiving component.
31. A dental imaging system base unit according to claim 27, wherein the external interface comprises a network device configured to communicate via a network.

32. A dental imaging system base unit according to claim 27, wherein the external interface comprises a digital video interface.
33. A dental imaging system base unit according to claim 27, wherein the external interface comprises a wireless transmitting system.
34. A dental imaging system base unit according to claim 27, further comprising a freeze frame system connected to the receiving component.
35. A dental imaging system base unit according to claim 27, further comprising a memory system connected to the receiving component.
36. A dental imaging system base unit according to claim 27, further comprising an audio system configured to receive and store audio information.
37. A dental imaging system for making an image of a target, comprising:
 - a sensor, comprising:
 - a light source configured to illuminate a target;
 - a camera configured to receive light from the light source via the target and generate a digital camera signal corresponding to the received light; and
 - a camera interface configured to receive the camera signal and transmit the camera signal;
 - a base unit connected to the sensor and configured to receive the transmitted

camera signal and convert a first format of the camera signal to a second format;
and

a connected device connected to the base unit and configured to receive the camera signal from the base unit, wherein the second format is a format that may be used by the connected device.

38. A dental imaging system according to claim 37, wherein the connected device comprises a wireless display.
39. A dental imaging system according to claim 37, wherein the light source includes at least one substantially white LED.
40. A dental imaging system according to claim 37, further comprising a diffuser proximate the light source, wherein the diffuser is configured to diffuse light from the light source.
41. A dental imaging system according to claim 40, wherein the diffuser comprises a solid material, comprising:
a rear surface configured to engage a surface of the light source; and
a roughened front surface.
42. A dental imaging system according to claim 40, wherein:
the light source is disposed behind a solid medium; and

the diffuser is at least one of integrated into the solid medium and attached to the solid medium.

- 43. A dental imaging system according to claim 42, wherein the diffuser includes a roughened surface of the solid medium.
- 44. A dental imaging system according to claim 42, wherein the diffuser includes the solid medium, and wherein the solid medium comprises a diffusing material.
- 45. A dental imaging system according to claim 42, wherein the sensor further comprises a housing defining a cavity, and wherein the light source is disposed within the cavity and the diffuser covers the cavity.
- 46. A dental imaging system according to claim 37, wherein the camera is configured to generate a full motion video signal.
- 47. A dental imaging system according to claim 46, wherein the sensor includes a video processor.
- 48. A dental imaging system according to claim 46, wherein the base unit includes a video processor.

- 49. A dental imaging system according to claim 46, wherein at least one of the sensor and the base unit is configured to capture a single frame in the video signal.
- 50. A dental imaging system according to claim 49, wherein the sensor includes a freeze frame activator.
- 51. A dental imaging system according to claim 37, wherein at least one of the sensor and the base unit includes a network device.
- 52. A dental imaging system according to claim 37, wherein the base unit is connected to the sensor via a wireless connection.
- 53. A dental imaging system according to claim 37, wherein the camera interface includes a wireless interface connected to the camera and configured to transmit information from the camera.
- 54. A dental imaging system according to claim 53, wherein the wireless interface is detachable from the camera.